



Ministry of Defense
Armed Forces College of Medicine (AFCM)



CARDIO-PULMONARY MODULE

Study Guide

2023 - 2024



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Chapter 1: Curriculum at a Glance

: رؤية الكلية (College Vision)

التميز في التعليم الطبى والبحث العلمى وأن تصبح المرجع الإقليمي فى العلوم الطبية العسكرية.

To achieve excellence in medical education and scientific research and to become the regional reference in military medicine.

: رسالة الكلية (College Mission)

تقدم كلية الطب بالقوات المسلحة تعليماً وتدريباً طبياً عالي الجودة لتخريج ضباط أطباء وباحثين ذوي مهنية عالية ملتزمين بالتنمية المهنية المستدامة وقواعد وأخلاقيات المهنة، لتقديم خدمة وقائية وعلاجية متميزة وإجراء البحوث الصحية والطبية لدعم نظم الرعاية الصحية العسكرية والمدنية بالتعاون والشراكة الإستراتيجية مع المؤسسات ذات الصلة محلياً وإقليمياً ودولياً.

The Armed Forces College of Medicine (AFCM) provides high-quality medical education and training to graduate highly professional medical officers and researchers; committed to sustainable professional development and medical ethics, delivering high quality preventive and therapeutic health-care services and



conducting health and medical research to support the military and civilian health-care systems by collaboration and strategic alliances with national, regional and international institutes.

: قيم الكلية (College Values)

1. Loyalty to Homeland.
2. Affiliation.
3. Discipline.
4. Selflessness.
5. Honesty.
6. Teamwork.
7. Creativity.
8. Quality.
9. Perfection.
10. Respect and Appreciation.

- 1- الإخلاص للوطن
- 2- الإنتماء
- 3- الانضباط
- 4- إنكار الذات
- 5- الأمانة
- 6- العمل الجماعي
- 7- الإبداع
- 8- الجودة
- 9- الإتقان
- 10- الإحترام و التقدير



AFCM Graduate Profile

A Military and Civilian Population Health Knowledge

A1 Acquire the fundamentals of basic, clinical and behavioral sciences that are essential for the care of both military and civilian population during military operations, disaster situations and in peace.

- A1.1 Describe the normal structure, development and function (the molecular, biochemical, cellular and anatomical mechanisms) of the body (as an intact organism) and of its major organ systems and the importance of these mechanisms in maintaining the body homeostasis.
- A1.2 Discuss the main developmental changes in humans and the effect of growth, development and aging on the individual and his family .
- A1.3 Describe basics of normal human behaviour and the impact of different factors altering the normal state.
- A1.4 Interpret and apply knowledge of the abnormalities of development, structure and function (Pathology and pathophysiology) of the body and its major systems, the most frequent clinical and pathologic manifestations of those conditions and the possible causes (genetic, metabolic, toxic, infectious, autoimmune, neoplastic, degenerative, behavioural and cognitive, and/or traumatic).
- A1.5 Describe drug actions: therapeutic, pharmacodynamics and pharmacokinetics, their side effects and interactions, multiple treatments, long term conditions, non-prescribed medications and the effects on the population.
- A1.6 Demonstrate basic sciences practical skills and procedures relevant to future practice, recognizing the scientific basis and interpreting common diagnostic modalities, including: imaging, electrocardiograms, laboratory assays, pathologic studies and functional assessment tests.



A2 Demonstrate medical knowledge, analytic thinking and reasoning to approach various clinical situations .

- A2.1 Apply knowledge of clinical and biomedical sciences relevant to the clinical problem at hand.
- A2.2 Use personal judgment for analytical and critical problem solving and seeking out information.
- A2.3 Demonstrate and apply the effective utilization of laboratory tests, radiologic, or office-based procedures to diagnose and/or manage common diseases and life- threatening conditions.
- A2.4 Demonstrate and apply knowledge of the therapeutic interventions (medical, surgical, physical and behavioural) available for common diseases and life-threatening conditions, including interventions for prevention, management and palliative care.
- A2.5 Apply knowledge of the epidemiology of common diseases and conditions including their predisposing personal, occupational, environmental, sexual, socioeconomic and cultural risk factors to identify systematic approaches for effective prevention and behavioural change appropriate to improve health care in both military and civilian population.

A3 Demonstrate knowledge of the unique competencies required for the practice of medicine in support of military operations and readiness to apply such knowledge.

- A3.1 Demonstrate the major developments in the history of medicine, the evolution of military medical sciences, health care management systems and economics, which lead to the contemporary military healthcare system.
- A3.2 Recognize the diagnosis, prevention and treatment of disorders associated with the unique aerospace and marine environments, with the adaptive systems designed to enhance performance and support life under such conditions



B Health Promotion

B1 Maintain normal health, provide primary health care and deal with common health problems in the society.

- B1.1 Demonstrate the determinants of health, principles of surveillance and screening of common community health problems and diseases.
- B1.2 Define and describe a population, including its demography, cultural and socioeconomic institution, circumstances of living and health status and understand the relevance of these factors to the population's health.
- B1.3 Reason deductively in solving clinical problems :
 - a) Classify factors that place individuals at risk for disease or injury, to determine strategies for appropriate response.
 - b) Recognize, define and prioritize problems .
 - c) Interpret, analyze, and evaluate information objectively, especially when in many situations not all desired information is available, thus requiring decisions to be based on the most reasonable interpretation of the information available.
- B1.4 Discuss the role of nutrition and physical activity in health promotion.

B2 Provide healthcare services aimed at health promotion and supporting healthy, fit and ready military forces .

- B2.1 Recognize, treat, and take appropriate measures to prevent communicable diseases, conditions and injuries that have the potential to reduce military readiness or that are unique to military service.
- B2.2 Demonstrate effective skills in triage, stabilization, management, and evacuation for civilian and military emergency response and mass casualty situations, including response to weapons of mass destruction (biological, chemical, radiological, and nuclear threats).



B3 Gather essential and accurate information for the purpose of health problem identification and characterization.

B3.1 Formulate an accurate comprehensive medical history that covers all essential aspects of a patient and his/her problem.

B4 Perform full physical and mental state examination.

B4.1 Practice full physical examination and specific focused organ examination of patients with acute or chronic clinical conditions, including a mental status assessment, appropriate to the age and gender, and culturally sensitive.

B4.2 Document clinical encounters in an accurate, complete, timely, and accessible manner, in compliance with regulatory and legal requirements.

B5 Make informed decisions to develop diagnostic and therapeutic management plans for common health problems based on patients' values and engagement, and up-to-date medical evidence.

B5.1 Integrate the results of history, physical and laboratory test findings into a meaningful diagnostic formulation .

B5.2 Formulate a treatment plan, demonstrating the ability to take action by balancing the risks and benefits of outcomes and treatment options.

B5.3 Conduct appropriate management strategies for patients with common conditions related to different age groups and genders, both acute and chronic, including medical, psychiatric and surgical conditions, and those requiring short and long term rehabilitation.

B5.4 Understand and utilize multidisciplinary principles and a patient-centered approach to palliative and end-of-life care.

B6 Perform clinical procedures especially those required in life saving situations.

B6.1 Perform routine clinical procedures at a level suitable to medical students and according to the clinical skill program .



B6.2 Recognize patients with immediately life threatening cardiac, pulmonary or neurological conditions regardless its etiology, apply basic and advanced life support principles, and initiate appropriate course of management for patients with serious conditions requiring critical care.

C Ethics, Professionalism and Leadership Development

C1 Be aware of the importance of a good doctor-patient relationship and follow rules of medical military and civilian health ethics.

- C1.1 Compassionate treatment of patients adopting an empathic approach to them and their problems, perpetuating respect for their privacy, dignity and confidentiality
- C1.2 Recognize the theories and principles that dictate ethical decision making, and the major ethical dilemmas in medicine, particularly those related to the beginning and the end of life, organ transplantation and those originated with the revolutionary development of genetics.
- C1.3 Understand and support the national code of ethics, the basics of medico-legal aspects of health problems, malpractice and common medical errors issued by the Egyptian Medical Syndicate .
- C1.4 Demonstrate commitment to the appropriate ethical delivery of health care in settings of armed conflicts and operations other than war, through compliance to the principles of the Geneva Conventions and the Laws of Armed Conflict as they apply to health care providers.
- C1.5 Report any unprofessional or unethical behavior and physical or mental conditions related to himself, colleagues or any other person that might jeopardize patients' safety.



C2 Show compassion, respect, integrity and responsiveness to the needs of patients and society that supersedes self-interests as well as a commitment to excellence and ongoing professional development .

- C2.1 Appraise and support patients' rights and involve them and /or their caretakers in management decisions, enthusiastically putting the patients' interests over one's own interests.
- C2.2 Identify vulnerable individuals that may be suffering from abuse or neglect and take the proper actions to safeguard their welfare.

C3 Demonstrate sensitivity and responsiveness to patients' religion, culture, age, sex and disabilities.

- C3.1 Demonstrate honesty and integrity in all interactions with patients' families and colleagues, along with free acceptance of different cultural beliefs and values in the community they serve .
- C3.2 Provide special care for specific groups including pregnant women, newborns and infants, adolescents and the elderly.

C4 Collaborate with other health care professionals, including those from other disciplines to provide patient-centered care.

- C4.1 Recognize and respect the importance of other health care professionals' roles and the need to collaborate with others in caring for patient's management and promoting the health of defined populations .
- C4.2 Recognize and accept ones' own limitations of clinical skills and uncertainty of knowledge through proper counseling, consultation and referral of patients to appropriate health facility at the appropriate stage to guarantee patient's safety during medical practice.

C5 Work professionally as a health care team leader or member, or in any other military work group.

- C5.1 Display personal development and time management skills for balancing professional and personal responsibilities .
- C5.2 Apply the principles of appropriate and ethical behavior for those who are officers in military service, civil servants and physicians involved in health care systems.
- C5.3 Demonstrate competencies to operate effectively as an officer in a uniformed team or as a leader in a variety of military-medical environments.



D Interpersonal, Cross Cultural and Communication skills

D1 Communicate professionally and demonstrate respectful caring behavior when interacting with patients, families and groups.

- D1.1 Practice active listening, communicate sensitively and ethically, demonstrate honour and respectful behaviours when interacting with, counselling, and educating patients and their families, superiors, colleagues and any other member of the health profession .
- D1.2 Demonstrate compassion to the patients and their relatives in situations of stress and grief and act immediately when they suffer harm, explain treatment complications as they occur, and apologize when appropriate .
- D1.3 Describe to the patients the progress of their condition, respect their varying needs for information and explanation and encourage them to discuss the proposed treatment with their supporters.
- D1.4 Apply the principles of shared decision-making as an interpersonal and communication based skill.

D2 Communicate effectively with different societies irrespective of culture, race, gender, socioeconomic status, literacy and religious believes.

- D2.1 Demonstrate equity and appropriate skills when interacting with individuals of different age, race, abilities, culture, sex, socio-economic status, literacy and religious practices .
- D2.2 Apply effective interpersonal and facilitative interviewing skills to efficiently provide adequate information through effective verbal, nonverbal, and/or written communications.
- D2.3 Demonstrate continuous self-awareness and calibration of one's individual reaction tendencies in reducing personal bias and achieving optimal patient centred outcomes.
- D2.4 Apply constructive feedback in evaluating his/her work and that of others.



E Health Care Systems

E1 Advocate sound quality healthcare at the Egyptian Armed Forces medical services department.

- E1.1 Apply effective skills for health care and health service support in operational deployment and emergency response, including the concepts of mobility, proximity, flexibility, conformity, and coordination .
- E1.2 Demonstrate competency in planning and execution of military contingency operations, forward combat casualty care including initial stabilization and movement from point of injury through all echelons of the military medical system, and the human performance optimization and sustainment of military personnel who train and operate in harsh, often austere, physically and mentally challenging environments.
- E1.3 Improve the health service provision by applying a process of continuous quality improvement.

E2 Coordinate with components of other health care systems in the country and globally.

- E2.1 Describe the organizational structures of the military health services and ministry of health, demonstrating the differences from one another, regarding the methods for controlling costs and allocating resources as well as the interactions between the two systems under operational conditions.
- E2.2 Demonstrate accountability to patients, society, and the profession.

E3 Understand how patient care and health professional practices affect the health care organization .

- E3.1 Advocate for access to health care, quality patient care and patient safety, and assist patients in dealing with system complexities.
- E3.2 Adopt the most suitable measures for infection control according to the setting.

E4 Practice efficient resources management and cost-effective health care without compromising quality of care.

- E4.1 Formulate and make decisions for individuals and groups, demonstrating knowledge of cost / benefit issues in health care.



F Evidence-based and lifelong learning

F1 Acquire information and make decisions based on best available evidence.

F1.1 Retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM).

F2 Apply knowledge of research design and biostatistics to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.

F2.1 Discuss the power of the scientific method in establishing disease causation and in demonstrating the efficacy of traditional and complementary therapies.

F2.2 Analyze and use numerical data including the use of basic statistical methods.

F3 Demonstrate knowledge of the information resources and technology tools available to support life-long learning.

F3.1 Apply information technology in managing medical data. Access on-line medical information, and support their own education.

F3.2 Demonstrate self-reflective abilities, to include the ability to develop and implement a plan of personal self-improvement.

F3.3 Summarize and present to professional and lay audiences the findings of relevant research and scholarly inquiry.

F4 Engage in ethical postgraduate and research studies.

F4.1 Demonstrate a commitment for the lifelong learning needs of the medical profession, to stay abreast of relevant scientific advances .

F4.2 Formulate research questions that are pertinent to medicine .

F4.3 Recognize the importance of precision in collecting, analyzing and interpreting medical and scientific data.

F4.4 Critically appraise research studies and scientific papers in terms of integrity, reliability, validity and applicability.



Modules and Courses along the Curriculum

Phase 1

Year	Course Title	Course Code	Total Student Effort	Credit Points	Marks
First Year	Public Health, Community & Occupational Medicine I	PH 101	90	3	60
	Clinical & Technical Skills I	CTS 102	90	3	60
	Non-technical Skills & Professionalism I	NTSP 103	120	4	80
	Research Track I	RT 104	30	1	20
	Foundation of Medical Cadet	FMC 105	120	4	80
	Foundation of Basic Medical Sciences I (Normal Structure and Function)	FBMS 106	240	8	160
	Foundations Basic Medical Sciences II (Concepts of Health & Disease)	FBMS 107	240	8	160
	Genetics	GEN 108	120	4	80
	Immunology & Blood	IB 109	150	5	100
	Musculo-skeletal & Integumentary System	MSI 110	300	10	200
Total 1st Year			1500	50	1000



Year	Course Title	Course Code	Total Student Effort	Credit Points	Marks
Second Year	Public Health, Community & Occupational Medicine II	PH 201	90	3	60
	Clinical & Technical Skills II	CTS 202	90	3	60
	Non-technical Skills & Professionalism II	NTSP 203	120	4	80
	Research Track II	RT 204	30	1	20
	Cardio-pulmonary	CP 205	390	13	260
	Neuroscience	NS 206	390	13	260
	GIT & Metabolism	GM 207	300	10	200
	Endocrine & Genito-urinary	EGU 208	390	13	260
Total 2nd Year			1800	60	1200

Phase 2



Year	Course Title	Course Code	Total Student Effort	Credit Points	Marks
Third Year	Public Health, Community & Occupational Medicine III	PH 301	90	3	60
	Clinical & Technical Skills III	CTS 302	150	5	100
	Non-technical Skills & Professionalism III	NTSP 303	60	2	40
	Research Track III	RT 304	30	1	20
	Behavioral & Social Sciences	BSS 305	150	5	100
	Infectious Diseases	INF 306	390	13	260
	Aerospace Medicine	AM 307	120	4	80
	Diving Medicine	DM 308	120	4	80
	Medicine I	MED 309	135	5	100
	Surgery I	SUR 310	135	5	100
	Obstetrics /Gynecology I	OBG 311	135	5	100
	Pediatrics I	PED 312	135	5	100
	Research Capstone	RC 313	90	3	60
Total 3rd Year			1740	60	1200



Year	Course Title	Course Code	Total Student Effort	Credit Points	Marks
Fourth Year	Public Health, Community & Occupational Medicine IV	PH 401	90	3	60
	Clinical & Technical Skills IV	CTS 402	150	5	100
	Non-technical Skills & Professionalism IV	NTSP 403	60	2	40
	Research Track IV	RT 404	90	3	60
	Medicine II	MED 405	350	13	260
	Surgery II	SUR 406	350	13	260
	Obstetrics /Gynecology II	OBG 407	350	13	260
	Pediatrics II	PED 408	350	13	260
Total 4th Year			1790	65	1300



Year	Course Title	Course Code	Total Student Effort	Credit Points	Marks
Fifth Year	Public Health, Community & Occupational Medicine V	PH 501	90	3	60
	Clinical & Technical Skills V	CTS 502	210	7	140
	Non-technical Skills & Professionalism V	NTSP 503	60	2	40
	Research Track V	RT 504	150	5	100
	Dermatology and Venereal Diseases	DVD 505	135	5	100
	Psychiatry	PSY 506	135	5	100
	Anaesthesia & Critical Care	ANC 507	135	5	100
	Special Senses (ENT & Ophthalmology)	EO 508	135	5	100
	Oncology	ONC 509	135	5	100
	Ortho & traumatology	OT 510	135	5	100
	Toxicology Emergency Medicine & Clinical	EMT 511	135	5	100
	Forensic & Medical Ethics	FE 512	135	5	100
	Field Surgery & Medicine	FSM 513	135	5	100
	Field Surgery & Medicine Project	FSMP 514	75	3	60
Total 5th Year			1800	65	1300



Chapter 2: Cardio-pulmonary CP 205

Module description:

Cardio-pulmonary module is a multidisciplinary integrated module that integrates basic science to clinical concepts of common diseases of the cardiovascular and respiratory systems. The students will acquire comprehensive understanding of the module topics through their relation to broad themes of the most common cardiovascular and pulmonary diseases.

Credit Points: 13
Semester: First
Duration: 10 weeks
Total marks: 260

General Module Aim

This module aims to provide the students with a comprehensive understanding of the normal structure and function of the cardiovascular and respiratory systems, biochemical basis of the cardio-pulmonary physiology, as well as the pathological features and pharmacotherapeutic approaches to treatment of common diseases.

Module General Objectives

Having successfully completed this module, the students will be able to:

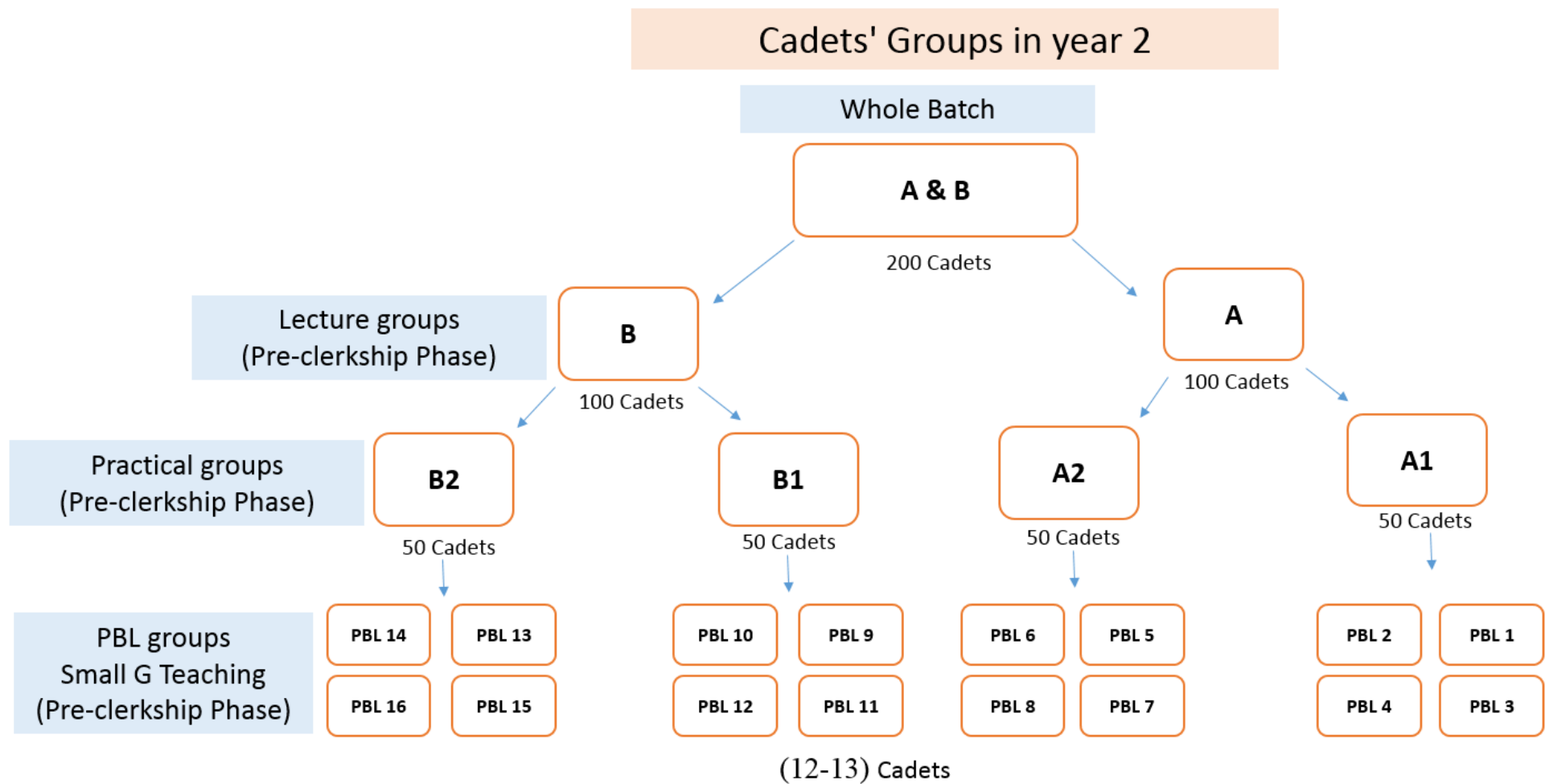
1. Explain the structure, function and biochemical basis of the normal respiratory and cardiovascular systems



2. Interpret how structure and function of the respiratory and cardiovascular systems are disturbed during disease processes.
3. Describe the scientific basis of common diseases of cardiovascular and respiratory systems.
4. Integrate basic knowledge of the cardiopulmonary system to the common clinical diseases in these systems.
5. Describe principles of therapeutics including mechanism of action, relevant pharmacokinetics, therapeutic indications and adverse effects for treatment of cardiovascular and respiratory system disorders.
6. Describe the embryological development of cardiopulmonary system to determine the underlying defects in common congenital malformations.
7. Engage in critical reflection on their learning activities.
8. Explain methods available to study respiratory and cardiovascular disease as ECG, blood tests....etc. and the principles behind each.
9. Practice simple basic practical and clinical skills that enriches his future profession as a health care provider.
10. Demonstrate professional behaviors towards peers, faculty and other members of the medical education team including punctuality, reliability, preparation and participation in all required learning activities.



Students' Groups





Module Timetable*

		C	D	E	G	H	I	K	L	N	O	P	Q	R	S	T	V	X	Y	Z	AA	AE	AC	AE	
		Colour Code Guide																							
		Anatomy Physiology Bio Histology Patholog Pharma Micro Para Genetics PBL Publ. Health Research Technical Skills Computer																							
		2nd Y (New program) Integration Schedule																							
Days			Lecture 1		Lecture 2		Practical 1-2				Lecture 3		Lecture 4		Practical 3-4				Lecture 5		Lecture 6				
			8.40 - 9.25		9.35 -10.20		A1	A2	B1	B2	8.40 - 10.20		10.30 - 11.15		11.25-12.10		A1	A2	B1	B2	10.30 - 12.10		12.20 - 1.05		1.15 - 2
Saturday	7-Oct-23	A	Orientation		Mediastinum						Mediastinum		Cardiac muscles & smooth muscles		Bio 1 PUB 1				Cardiac muscles & smooth muscles		Introduction and cardiac automaticity		SDL		
		B																							
Sunday	8-Oct-23	A	Cardiac fuels		Heart-External features										PUB 1 Bio 1				Cardiac excitability and conduction		TCA cycle pathway				
		B					Ana 1 Bio 1				Cardiac fuels		Heart-External features						TCA cycle pathway		Cardiac excitability and conduction				
Monday	9-Oct-23	A					Bio 2 Ana 1								Ana 1 PUB 2				Heart-internal features		TCA cycle-regulation & inhibitors				
		B					R 1 PUB 1								Bio 1 R 1				TCA cycle-regulation & inhibitors		Heart-internal features				
Tuesday	10-Oct-23	A					R 1 Ana 2								PUB 2 R 1				Rheumatic fever :An immunological insight		Alternative fuel to the heart: fatty acid synthesis				
		B					PUB 1 Bio 2								Bio 2 Ana 1				Rheumatic fever :An immunological insight		Alternative fuel to the heart: fatty acid synthesis				
Wednesday	11-Oct-23	A	Blood supply of the heart		Pathology of rheumatic fever						Cardiac contraction		Fatty acid oxidation 1						PUB 3-A2						
		B	Pathology of rheumatic fever		Blood supply of the heart										PUB 2 Ana 2				Cardiac contraction		Fatty acid oxidation 1				
Thursday	12-Oct-23	A					Ana 2 Bio 2				Cardiac cycle		Histological structure of arteries						Pathology of endocarditis		Arteries of the thorax				
		B	Cardiac cycle		Histological structure of arteries										Ana 2 PUB 2				Arteries of the thorax		Pathology of endocarditis				
Friday	13-Oct-23	Clinical Skills Certified Course PBL 1 & 2																							
Saturday	14-Oct-23	A	Heart sounds		Histological structure of capillaries and veins						Cardiac output		Fatty acid oxidation 2						Integrated CBL (RH. Fever)						
		B	Histological structure of capillaries and veins		Heart sounds										Integrated CBL (RH. Fever)				Fatty acid oxidation 2		Cardiac output				
Sunday	15-Oct-23	A	Veins of the thorax		Cardiac reserve, cardiac work and oxygen consumption of the heart										PUB 3 Phy 1				Integrated CBL endocarditis						
		B					PUB 3 Phy 1				Cardiac reserve, cardiac work and oxygen consumption of the heart		Veins of the thorax						Diuretics 1: classification and mechanism of action		Pathology of aneurysm & varicose veins				
Monday	16-Oct-23	A					Phy 1 Ana 3				Tutorial-CVS curves								Diuretics 1: classification and mechanism of action		Pathology of aneurysm & varicose veins				
		B	Tutorial-CVS curves												Phy 1 Ana 3				Integrated CBL endocarditis						

* The dates at this timetable eligible for change, please check the daily timetable on the screens during your self-study time for the next day.

* All underlined topics are given as face-to-face teaching.



Armed Forces College of Medicine
Cardio-pulmonary Study Guide

Year 2 2020-2021

Colour Code Guide		Anatomy	Physiology	Bio	Histology	Patholog	Pharma	Micro	Para	Genetics	PBL	Publ. Health	Research	Technical Skills	Computer
		2nd Y (New program) Integration Schedule													
Days		Lecture 1	Lecture 2	Practical 1-2				Lecture 3	Lecture 4	Practical 3-4				Lecture 5	Lecture 6
		8.40 - 9.25	9.35 - 10.20	A1	A2	B1	B2	10.30 - 11.15	11.25-12.10	A1	A2	B1	B2	12.20 - 1.05	1.15 - 2
Tuesday	17-Oct-23	No Teaching													
Wednesday	18-Oct-23	No Teaching													
Thursday	19-Oct-23	No Teaching													
Friday	20-Oct-23	No Teaching													
Saturday	21-Oct-23	Cardiac arrhythmias-1	Diuretics 2: Thiazides & loop diuretics					Cardiac arrhythmias-1	Diuretics 2: Thiazides & loop diuretics	Ana 3	Histo 1			Development (1) of cardiovascular	Pathology of hypertension
						Ana 3	Histo 1							Pathology of hypertension	Development (1) of cardiovascular system
Sunday	22-Oct-23			Histo 1	SDL			Development (2) of cardiovascular	K sparing & Osmotic diuretics					PUB 3-A2	
							TS 1	PUB 3				Histo 1	TS 1	Development (2) of cardiovascular	K sparing & Osmotic diuretics
Monday	23-Oct-23	Pathology of atherosclerosis	TG metabolism					Development (3) of cardiovascular		TS 1	PUB 4			Cardiac arrhythmias-2	Development (3) of cardiovascular system
		TG metabolism	Pathology of atherosclerosis						Cardiac arrhythmias-2					PUB 4 (B1)	
Tuesday	24-Oct-23	Tutorial-ECG & arrhythmia						Tutorial-ECG & arrhythmia		PUB 4	Ana 4			TS 1-(A2)	
							TS 2	Ana 4						NTS: Resilience-1	
Wednesday	25-Oct-23			Ana 4	TS 2			Circulatory hemodynamics (1)	SDL					TS 2 (A1)	
		SDL	Circulatory hemodynamics (1)								Ana 4	PUB 4		Antihypertensive drugs 1	Antihypertensive drugs 2
Thursday	26-Oct-23	Antihypertensive drugs 1	Antihypertensive drugs 2							PUB 5	SDL			Cholesterol metabolism	Circulatory hemodynamics (2)
							PUB 5	Phys 2				Phys 2	TS 2	Circulatory hemodynamics (2)	Cholesterol metabolism
Friday	27-Oct-23	Clinical Skills Certified Course PBL 3 & 4													
Saturday	28-Oct-23			Phys 2	PUB 5					SDL	Phys 2			Regulation of cardiovascular system	Lipoprotein metabolism-1
		Lipoprotein metabolism 1	Regulation of cardiovascular system and									TS 3	PUB 5	Antihypertensive drugs 3	Antihypertensive drugs 4

* The dates at this timetable eligible for change, please check the daily timetable on the screens during your self-study time for the next day.



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Cardio-pulmonary Study Guide

Year 2 2020-2021

Sunday	29-Oct-23	A	Regulation of cardiovascular system and arterial blood pressure 2: Cardiac	Lipoprotein metabolism-2			SDL	TS 3	Antihypertensive drugs 3	Antihypertensive drugs 4
		B			Pharm a 1	TS 3	Regulation of cardiovascular system and arterial blood pressure 2: Cardiac	Lipoprotein metabolism 2	Embolism	Ischemia & infarction
Monday	30-Oct-23	A			TS 3	Pharm a 1	Regulation of cardiovascular system and arterial blood pressure 2: Cardiac	Dyslipidemia & biochemical aspects of atherosclerosis	Embolism	Ischemia & infarction
		B	Regulation of cardiovascular system and arterial blood pressure 3: Vascular	Dyslipidemia & biochemical aspects of atherosclerosis				TS 4	Pharm a 1	SDL
Tuesday	31-Oct-23		No Teaching							
Wednesday	1-Nov-23		No Teaching							
Thursday	2-Nov-23		No Teaching							
Friday	3-Nov-23		No Teaching							
Saturday	4-Nov-23	A			Pharm a 1	TS 4	Pathology of ischemic heart disease	Regulation of arterial blood pressure	Integrated CBL (Hypertension)	
		B	Pathology of ischemic heart disease	Regulation of arterial blood pressure			Integrated CBL (Hypertension)		Hypolipidemic drugs 1	Hypolipidemic drugs 2
Sunday	5-Nov-23	A			TS 4	SDL	Coronary, skin and cerebral circulation	Capillary circulation, tissue fluid formation and edema	Hypolipidemic drugs 1	Hypolipidemic drugs 2
		B	Coronary, skin and cerebral circulation	Capillary circulation, tissue fluid formation and edema				SDL	TS 4	NTS: Resilience-2
Monday	6-Nov-23	A	Formative exam		Antianginal drugs 1		Antianginal drugs 2	Cardiovascular response to exercise	Pathology of myocardial, pericardial diseases and heart failure	SDL
		B	SDL				Cardiovascular response to exercise	Antianginal drugs 1	Antianginal drugs 2	Pathology of myocardial, pericardial diseases and heart failure
Tuesday	7-Nov-23	A			Pharm a 2	Bio 3	SDL	Diagnostic biomarkers of myocardial infarction	Path 1 (A1)	
		B	Drugs used in heart failure 1	Drugs used in heart failure 2			Diagnostic biomarkers of myocardial infarction	SDL	Bio 3	Pharm a 2
Wednesday	8-Nov-23	A	Drugs used in heart failure 1	Drugs used in heart failure 2					Bio 3	Pharm a 2
		B			Pharm a 2	Bio 3	Integrated CBL (Ischemic heart)		Path 1 (B1)	
Thursday	9-Nov-23	A	SDL	Applied clinical chemistry (cardiovascular)					Pharm a 3	Path 1
		B			Pharm a 3	Path 1	Applied clinical chemistry (cardiovascular)	Antiarhythmic drugs	SDL	

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Friday	10-Nov-23		Clinical Skills Certified Course PBL 3 & 4												
Saturday	11-Nov-23	A			SDL	Pharm a 3	Integrated CBL HT failure				SDL	Pharm a 3	Integrated CBL HT failure		
		B	SDL							SDL	Pharm a 3	Integrated CBL HT failure			
Sunday	12-Nov-23	A	SDL												
		B													
Monday	13-Nov-23	A	MID-Module exam		Nose and paranasal sinuses	Viral upper respiratory tract infection		Respiratory chain (ETC) and shuttle mechanisms	The functional structure of the respiratory system						
		B			Viral upper respiratory tract infection	Nose and paranasal sinuses		The functional structure of the respiratory system	Respiratory chain (ETC) and shuttle mechanisms						
No Teaching															
No Teaching															
No Teaching															
Friday	17-Nov-23														
Saturday	18-Nov-23	A	Pharynx and larynx	Conducting portion of the respiratory system		Diseases of nose, sinuses and pharynx	Electron Transport Chain & oxidative phosphorylation		Ana 5 (A1)						
		B	Conducting portion of the respiratory system	Pharynx and larynx		SDL	Diseases of nose, sinuses and pharynx		SDL	Electron Transport Chain & oxidative phosphorylation					
Sunday	19-Nov-23	A	Thoracic wall 1	Diseases of the ear, larynx & bronchiactasis		Inhibitors and Uncouplers of oxidative phosphorylation	Mechanics of respiration		NTS: Resilience-1						
		B	Diseases of the ear, larynx & bronchiactasis	Thoracic wall 1		Mechanics of respiration	Inhibitors and Uncouplers of oxidative phosphorylation		Ana 5 (B1)						
Monday	20-Nov-23	A			SDL	Ana 5	Thoracic wall II	Pulmonary surfactant		Nasopharyngeal and laryngeal tumors	SDL				
		B	SDL	Pulmonary surfactant		Nasopharyngeal and laryngeal tumors	Thoracic wall II		Ana 5 (B2)						
Tuesday	21-Nov-23	A			TS 5	Ana 6	Antihistamine drugs	Diaphragm		Respiratory portion of respiratory system	Viral lower respiratory tract infection 1				
		B	Antihistamine drugs	Diaphragm				Ana 6	TS 5	Viral lower respiratory tract infection 1	Respiratory portion of respiratory system				
Wednesday	22-Nov-23	A			Ana 6	TS 5	SDL	Lung compliance		Viral lower respiratory tract infection 2	COPD 1				
		B	SDL	Lung compliance				TS 5	Ana 6	COPD 1	Viral lower respiratory tract infection 2				
Thursday	23-Nov-23	A	Pleura & Lung	The respiratory dead space					Phy 2	Ana 7	COPD 2		Biochemical Basis of pulmonary Diseases		
		B			Ana 7	Phy 2	Pleura & Lung	The respiratory dead space		Biochemical Basis of pulmonary Diseases		COPD 2			
Friday	24-Nov-23		Clinical Skills Certified Course PBL 7 & 8												
Saturday	25-Nov-23	A			Ana 7	Phy 2	Pathology of lung abscess and pneumonia	Pulmonary gas exchange		Autonomic nerves of thorax	Drugs used in treatment of BA and COPD1				
		B	Pathology of lung abscess and pneumonia	Pulmonary gas exchange					Phy 2	Ana 7	Drugs used in treatment of BA and COPD1	Autonomic nerves of thorax			

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Sunday	26-Nov-23	A			Histo 2	Phy 3		Mycobacterium	Ventilation perfusion relationship			SDL	Drugs used in treatment of BA and COPD2
		B	Mycobacterium	Ventilation perfusion relationship						Histo 2	Phy 3	Drugs used in treatment of BA and COPD2	SDL
Monday	27-Nov-23	A	O2 transport and O2 HB dissociation curve1	Pathology of Pulmonary T.B						Phy 3	Histo 2	SDL	Drugs used in treatment of BA and COPD3
		B				Phy 3	Histo 2	O2 transport and O2 HB dissociation curve	Pathology of Pulmonary T.B			Drugs used in treatment of BA and COPD3	SDL
Tuesday	28-Nov-23		No Teaching										
Wednesday	29-Nov-23		No Teaching										
Thursday	30-Nov-23		No Teaching										
Friday	1-Dec-23												
Saturday	2-Dec-23	A	CO2 Transport	Pneumoconiosis and interstitial lung diseases						Ana 8	Pharm a 4	Applied clinical chemistry on resp. system	SDL
		B				Ana 8	Pharm a 4	CO2 Transport	Pneumoconiosis and interstitial lung diseases			SDL	Applied clinical chemistry on resp. system
Sunday	3-Dec-23	A	Formative exam	Regulation of respiration: Non-chemical regulation						Pharm a 4	Ana 8	Drugs used in ttt of allergic rhinitis	Pathology of the pleura
		B						Pathology of the pleura	Regulation of respiration: Non-chemical regulation			SDL	Drugs used in ttt of allergic rhinitis
Monday	4-Dec-23	A	Lung tumors	Regulation of respiration: chemical regulation				NTS: Resilience-2				SDL	
		B	SDL					Lung tumors	Regulation of respiration: chemical regulation			SDL	
Tuesday	5-Dec-23	A	SDL	Hypoxia & Cyanosis						Path 2	Ana 9	Integrated CBL (COPD)	
		B						Hypoxia & Cyanosis	SDL			SDL	
Wednesday	6-Dec-23	A			Ana 9	Path 2		Tutorial-Respiratory physiology				NTS: Resilience-3	
		B	Tutorial-Respiratory physiology							Ana 9	Path 2	Integrated CBL (COPD)	
Thursday	7-Dec-23	A	SDL										
Friday	8-Dec-23	B	SDL										
Saturday	9-Dec-23	A	SDL										
Sunday	10-Dec-23	A	End Module Written Exam										
Monday	11-Dec-23	A	END Module OSPE										
		B											



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Summary of the Module Learning Activities

Cardio-pulmonary Module CP 205

System	Module goal	Main topics	Subtopics I	Teaching	Subtopics II	Subtopics II ILOs	Department
Cardiovascular system	Understanding medical basis of common cardiovascular diseases	Introduction to cardiac system	Anatomy of the mediastinum	Lecture	Mediastinum	1. Define mediastinum and its divisions 2. Describe boundaries of superior, anterior, middle and posterior mediastinum 3. List the contents of each division of mediastinum 4. Correlate the arrangement of the contents of each division of mediastinum with their clinical significance	Anatomy
				Practical	Mediastinum	1. Identify the position of mediastinum. 2. Trace the boundaries of the mediastinum. 3. Identify the contents of the superior, anterior, middle and posterior mediastinum.	



				Lecture	Heart: External features	1. Describe the external features of the heart, position, apex, base, grooves, surfaces and borders. 2. Describe the surface anatomy of the heart 3. List the layers of pericardium and their function 4. List the blood supply and nerve supply of the layers of pericardium 5. Locate site of the pericardial sinuses and their clinical significance 6. Discuss the relevant applied anatomy of the pericardium
				Lecture	Heart: Internal features	1. Discuss the internal features of the chambers of the heart 2. Outline the tricuspid, mitral, aortic and pulmonary valves 3. Describe the interventricular septum 4. Discuss the conducting system of the heart 5. Describe the surface marking of the cardiac valves and their auscultatory areas
				Practical	Heart	1. Identify the position of the heart. 2. Identify the external features of the heart (borders, apex, base, chambers, surfaces and grooves). 3. Identify the internal features of the chambers of the heart. 4. Correlate between the external features of the heart and their radiological appearance on x-ray films.



			Microscopic structure of the cardiac muscle	Lecture	Cardiac muscles & Smooth muscles	1. Correlate the structure of the cardiac muscle fibers to its function . 2. Describe sarcoplasmic reticulum and diads of the cardiac muscle fibers . 3. Describe the structure and correlated functions of the wall of the heart (epicardium, myocardium, endocardium and valves .) 4. Outline the differences between the Purkinje fibers and the cardiac muscle fibers . 5. State the growth and regeneration of the cardiac muscle fibers . 6. Describe the structure and correlated functions of the smooth muscle fibers . 7. State the growth and the regeneration of smooth muscle fibers . 8. Compare between the cardiac muscle and the smooth muscle .	Histology
			Cardiac properties	Lecture	Introduction and cardiac automaticity	1. Describe the functional parts of the cardiovascular system 2. List the site of initiation and propagation of the cardiac action potential 3. Explain why the SAN is the cardiac pacemaker specifications 4. List which ion modulates the phases of the ventricular and pacemaker action potential 5. Compare fast- and slow response action potentials	Physiology



				Lecture	Cardiac excitability& cardiac conduction	1. Describe cardiac excitability ARP and RRP 2. Correlate the myocardial action potential with the myocardial excitability and contraction 3. Explain the effects of altered serum calcium and potassium levels on the myocardial excitability 4. Analyze with illustration the propagated cardiac impulse along the conductive system of the heart and its component 5. Explain the causes and significances of slow conduction velocity at the AVN	
				Lecture	Cardiac contraction	1.explain the characteristic of myocardial contraction "All or none rule-Isotonic and isometric" 2.explain the relation between preload and isometric contraction (frank starling law (3.Describe the excitation contraction coupling of the cardiac muscle 4.Apply the information studied in this section to solve a clinical problem or explain a condition cardiac muscle	
				Practical	ECG practical	1. Define the ECG lead and differentiate between its types. 2. Describe the general rules during ECG recording. 3. Apply the above rules during recording Lead II. 4. Describe the procedure for recording ECG. 5. Demonstrate the proper site of different leads.	



		Rheumatic heart diseases (valvular diseases)	Cardiac fuels	Lecture	Cardiac fuels- Glycolytic pathway	1. Illustrate the steps of glycolysis. 2. Calculate the energy yield from the glycolytic pathway.	Biochemistry
				Lecture	Cardiac fuels- importance and clinical correlations of glycolysis	1. Discuss the biochemical importance of glycolysis. 2. Correlate clinical disorders to glycolytic enzyme deficiencies.	
				Lecture	Cardiac fuels- regulatory steps of glycolysis and PDH complex	1. Outline regulatory steps of glycolysis. 2. Enumerate sources and fates of pyruvate. 3. Illustrate steps of acetyl CoA synthesis and its regulation. 4. Relate PDH complex abnormalities to clinical disorders	
				Lecture	TCA cycle and role of inhibitors	1. Illustrate the steps of tricarboxylic acid cycle. 2. Describe the importance of tricarboxylic acid cycle. 3. Calculate the ATP generated per each turn of the cycle. 4. Discuss Anaploretic Reactions which replenish intermediates of TCA Cycle 5. Explain inhibitors of TCA cycle	
				Lecture	Electron transport chain and ATP generation	1. Outline the sources of ATP. 2. Categorize the components of the ETC & their arrangement on the inner mitochondrial membrane. 3. Explain the chemiosmotic theory and the coupling of oxidation to phosphorylation.	
				Lecture	Clinical implications of electron transport chain	1. Enumerate the inhibitors of the respiratory chain. 2. Correlate mitochondrial disorders with clinical diseases.	



				Lecture	Alternative fuel to the heart: Fatty acid synthesis	1. Illustrate the steps of FA synthesis. 2. Interpret its regulation. 3. Outline important fates of fatty acids.	
				Lecture	Fatty acid oxidation (mitochondrial beta oxidation)	1. Illustrate the steps of beta oxidation 2. Discuss role of carnitine in FA oxidation and its clinical implication. 3. Correlate defects in FA oxidation to clinical disorders.	
				Lecture	Fatty acid oxidation ((β oxidation regulation & ω oxidation)	1. Discuss regulatory steps of FA oxidation 2. Interpret the role of peroxisomes in oxidation of VLCFA and its clinical correlation. 3. Discuss other types of FA oxidation and their clinical importance.	
			Heart as a pump	Lecture	Cardiac cycle	1. Describe the changes that occur in atrial volume and pressure, ventricular volume and pressure, heart valve, aortic pressure in each phase of the cardiac cycle. 2. Describe the aortic pulse curve. 3. Describe and draw the jugular venous pressure. 4. Describe the normal heart sounds. 5. Apply the information studied in this section to solve a clinical problem or explain a condition	Physiology



				Lecture	Cardiac output	1. Define stroke volume, cardiac output, and cardiac index 2. Explain the influence of altered preload on force of contraction of the cardiac muscle. 3. Describe the factors that help in venous return in upright position 4. Explain efficacy of myocardial contractility 5. Describe the Indices of myocardial contractility 6. Apply the information studied in this section to solve a clinical problem or explain clinical case.	
				Lecture	Cardiac reserve, cardiac work and oxygen consumption by the heart	1. Describe cardiac reserve with its parameters limitations, and mechanisms 2. Explain why trained athletes can achieve higher cardiac output than non- athletes can do. 3. List the types of work done by the heart 4. Describe mechanical efficiency of the heart 5. Describe the O2 consumption by the heart 6. Apply the information studied in this section to solve a clinical problem or explain clinical case.	
				Tutorial	ECG and cardiac arrhythmias	1. Analyze ECG waves, segments, and intervals 2. Describe the ECG changes in different types of arrhythmias 3. Compare the ECG waves, segments and intervals in different arrhythmic conditions 4. Analyze a given ECG strip 5. Apply the information studied in this section to comment on ECG tracing. 6. Apply knowledge to solve clinical cases	
			Pathological Features and microbial causes of	Lecture	Pathology of rheumatic fever	1. Define rheumatic fever 2. Discuss the incidence & aetiology of rheumatic fever 3. Explain the pathogenesis of rheumatic fever 4. Describe the pathology of cardiac & extra-cardiac lesions.	



			cardiac infections			5. Recognize the clinical course & complications of rheumatic fever 6. Identify diagnostic criteria of rheumatic fever.	Pathology
				Lecture	Pathology of endocarditis	1. Define endocarditis 2. Explain etiology & pathogenesis of infective endocarditis 3. Differentiate between pathological features of acute & subacute infective endocarditis 4. Predict the prognosis of infective endocarditis. 5. Discuss examples of non-infective endocarditis.	Pathology
		Hypertension		Lecture	Blood supply of the heart	1. Describe origin, course and branches of the right and left coronary arteries 2. Explain the venous drainage of the heart 3. Correlate the distribution of the vessels with the clinically related cases	Anatomy
			Anatomy of the vascular system	Lecture	Vessels of the thorax	1. Describe, beginning, course, termination, important relations and branches of the arteries of the thorax 2. Describe, beginning, course, termination, important relations and tributaries of the veins of the thorax	
				Practical	Arteries and veins of the thorax	1. Identify beginning, termination, course and branches of the arteries and veins of the thorax. 2. Recognize the parts of the sternum and its articulations and attachments.	



				Lecture	Vessels of head and neck	1. Describe the origin, course, termination and branches of common carotid, internal carotid and external carotid 2. Describe the origin, course, termination and branches of subclavian artery 3. Identify beginning, termination, course and tributaries of subclavian and jugular veins	
				Practical	Arteries and veins of head and neck	1. Identify beginning, termination, course and branches of the arteries and veins of the head and neck	
				Lecture	Vessels of upper limb	1. Describe the origin, course, termination and branches of arteries of upper limb 2. Discuss the sites of anastomosis and arteries sharing in each anastomosis 3. Describe beginning, termination, course and tributaries of superficial and deep veins of upper limb 4. Correlate the vascular anastomosis in upper limb with its relevant clinical significance	



				Lecture	Vessels of lower limb	1. Describe the origin, course, termination and branches of arteries of lower limb 2. Discuss the sites of anastomosis and arteries sharing in each anastomosis 3. Describe beginning, termination, course and tributaries of superficial and deep veins of upper limb 4. Identify the communications between the superficial and deep veins of lower limb and their relevant clinical significance 5. Correlate the vascular anastomosis in lower limb with its relevant clinical significance	
				Practical	Arteries and veins of the upper and lower limbs	1. Identify beginning, termination, course and branches of the arteries and veins of the upper and lower limbs	
			Microscopic structure of the vascular system	Lecture	structure of arteries	1- Describe the general structure of the wall of a blood vessel. (Recall & understanding) 2- Describe the structure of the aorta (recall & understanding) 3- Correlate the structure of aorta to its function (intellectual) 4- Describe the structure of a medium-sized artery, arteriole and meta arteriole. (recall & understanding) 5- Correlate the structure of a medium-sized artery, arteriole and meta arteriole to their functions (intellectual) 6- Correlate the defective microscopic structure of arteries to the occurrence of different diseases. (Intellectual).	Histology



					Structure of capillaries and veins	1- Deduce the difference between a medium-sized artery and a medium-sized vein. (intellectual) 2- Describe the structure of the inferior vena cava. (Recall & understanding). 3- Correlate the structure of inferior vena cava to its function (intellectual) 4- List the types of blood capillaries. (recall) 5- Describe the structures of different types of blood capillaries . 6- Correlate the structure of different types of capillaries to their functions (intellectual). 7- Define arterio-venous connections. (recall) 8- Correlate the defective microscopic structure of capillaries and veins to the occurrence of different diseases. (Intellectual).	
				Practical	Structure of heart & blood vessels	1- Identify an H&E-stained section of Wall of the heart by the LM in one minute . 1- Identify an H&E-stained section of Moderator band by the LM in one minute . 3- Identify a labelled electron photomicrograph of Intercalated disc in one minute. 4. Identify an H&E-stained section of Aorta by the LM in one minute . 5. -Identify an H&E-stained section of Medium sized artery and vein by the LM in one minute . 6- Identify an H&E-stained section of Inferior vena cava by the LM in one minute . 7- Identify a labelled electron photomicrograph of continuous capillary in one minute. 8- Identify a labelled electron photomicrograph of fenestrated capillary in one minute.	



			Introduction to hypertension therapy	Lecture	Diuretics1: Classification and mechanism of action	1. Identify the major locations of ion and water exchange in the nephron 2. Identify the sites of action of diuretics 3. List diuretics of common use	Pharmacology
				Lecture	Diuretics 2: Thiazides diuretics & Loop Diuretics	1. List the preparations of thiazides and thiazide-like analogs 2. Identify their pharmacological actions 3. Contrast their mechanism of action as a diuretic compared to that as an antihypertensive 4. Identify the therapeutic uses of thiazides diuretics 5. Explain the adverse effects of thiazide diuretics 6. List members of loop diuretics 7. Recognize the mechanism of action of loop diuretics 8. Interpret the therapeutic uses of loop diuretics 9. Explain the adverse effects of loop diuretics	
				Lecture	Diuretics 3: K sparing and osmotic diuretics	1. Classify types of K- sparing diuretics 2. Identify the pharmacological actions, therapeutic uses and side effects of K- sparing diuretics 3. Understand the actions, therapeutic uses and side effects of carbonic anhydrase enzyme inhibitors (acetazolamide) 4. Interpret the actions of osmotic diuretics with its uses 5. Compare between the different diuretics in different parameters	



			Normal Circulatory Hemodynamic s	Lecture	Circulatory hemodynamic s 1	1. Identifies the major mechanisms in vascular resistance, control, and blood flow distribution. 2. Describe the relationship among blood flow, blood pressure, and vascular resistance. 3. Explain the relative changes in flow through the vascular system caused by changes in radius, blood viscosity, and pressure difference. 4. Apply the information studied in this section to solve a clinical problem or explain clinical case.	Physiology
				Lecture	Circulatory hemodynamic s 2	1. Describe differences in the blood velocity in the various vascular segments in relation to their total cross-sectional area. 2. Describe the factors that affect the vascular resistance. 3. Describe why the resistance in the capillaries is low and blood flow is slow. 4. Apply the information studied in this section to solve a clinical problem or explain clinical case	
			Regulatory mechanisms of the cardiovascular system	Practical	Measuremen t of arterial blood pressure	1. Define the arterial pulse. 2. Comment on the pulse rate, rhythm and volume. 4. Compare radial pulse measured on both sides. 5. Demonstrate how to examine the State of the vessel wall. 6. Identify other Important sites of pulse examination 7. Define blood pressure, systolic, diastolic, pulse, and mean arterial pressures . 8. Describe how pulse pressure and mean arterial pressure are calculated. 9. Explain the significance of each 10. Differentiate between palpatory and auscultatory methods. 11. Describe different stages of Korotkoff sounds. 12. Demonstrate the ability to measure ABP sphygmomanometer and stethoscope, and calculate the pulse with comments on its characters	Physiology



				Lecture	Regulation of cardiovascular system and arterial blood pressure 1: Cardiac regulation (1)	1. Explain the arterial baroreceptor reflex 2. Explain its physiological significance 3. Describe the atrial stretch receptors reflex. 4. Compare the physiological significances of the above two reflexes 5. Explain the mechanisms by which increased venous return causes increases urine output	
				Lecture	Regulation of cardiovascular system and arterial blood pressure 2: Cardiac regulation (2)	1. Describe the chemoreceptor reflex and explain its significance . 2. Describe Cushing reflex. 3. List the factors that affect the heart rate and explain their effects . 4. Apply the information studied in this section to solve a clinical problem or explain clinical case.	
				Lecture	Regulation of cardiovascular system and arterial blood pressure 3: Blood flow regulation	1. Outline the effects of circulating hormones in blood flow regulation. 2. Describe the local regulation of blood flow (autoregulation and metabolic regulation). 3. Give examples of the different types of metabolic regulatory mechanisms (short and long term). 4. List the factors that regulate the arteriolar diameter 5. Apply the information studied in this section to solve a clinical problem or explain clinical case. 6. Describe the vasoactive substances that are secreted by the endothelium or the blood platelets. 7. Describe the hormonal regulation of blood flow. (catecholamine, renin angiotensin system, ADH, ANP and vasodilator hormones) 8. Describe the neural regulation of blood flow). 9. Apply the information studied in this section to solve a clinical problem or explain clinical case	



				Lecture	Regulation of arterial blood pressure.	1. List the factors that affect arterial blood pressure. 2. Describe the mechanisms by which arterial blood pressure is regulated 3. Indicate the relationship between pulse pressure, stroke volume, and arterial compliance 4. Predicts how pulse pressure will be changed by changes in stroke volume, or arterial compliance. 5. Indicate the relationship between arterial pressure, cardiac output, and total peripheral resistance 6. Predicts how arterial pressure will be altered when cardiac output and/or total peripheral resistance changes. 7. Apply the information studied in this section to solve a clinical problem or explain clinical case.	
			Pathological features and pharmacological treatment	Lecture	Pathology of hypertension	1. Define hypertension 2. List types of hypertension 3. Explain aetiology of essential hypertension 4. Compare between pathological features of benign & malignant hypertension 5. Enumerate causes of secondary hypertension 6. Recognize different types of vasculitis	Pathology
				Lecture	Antihypertensive drugs 1	1. Classify the groups of antihypertensive drugs according to their mechanisms of action 2. Identify the role of diuretics in the treatment of hypertension 3. Explain the role of beta –blockers as an antihypertensive drug 4. Explain the adverse effects and drug interactions of Beta-blockers as an antihypertensive drug	Pharmacology



				Lecture	Antihypertensive drugs 2	1. Explain the mechanism of action of Angiotensin Converting Enzyme Inhibitors (ACEIs) as an antihypertensive drug 2. Explain the adverse effects of ACEIs 3. Differentiate between ACEIs and Angiotensin II-Receptor Blockers (ARBs) 4. Identify the role of Renin Inhibitor in the treatment of hypertension 5. Classify calcium-channel blockers 6. Differentiate between the classes of calcium-channel blockers in their mechanisms of action as antihypertensive drugs 7. Identify the therapeutic uses and adverse effects of calcium-channel blockers. 8. Explain the role of adrenergic blockers and inhibitors in the treatment of hypertension
				Lecture	Antihypertensive drugs3	1. Identify the role of arteriodilators in the treatment of hypertension 2. List the adverse effects of arteriodilators 3. Identify the role of sodium nitroprusside (mixed dilator) in the treatment of hypertension 4. Identify the adverse effects and the precautions of sodium nitroprusside 5. List drugs used in the treatment of hypertensive emergency 6. Identify the pharmacodynamics of drugs used in the treatment of hypertensive emergency
				Practical	Treatment of hypertension and hypertensive emergencies	1. Select the proper anti-hypertensive drug/s in different stages of hypertension and in different patients. 2. Plan the therapeutic management of hypertensive emergency



		Ischemic heart disease	Introduction	Practical	Blood supply of the heart	1. Identify the origin, course and branches of the coronary arteries 2. Identify the coronary sinus, great , middle and small cardiac veins	Anatomy
			Special circulations	Lecture	Coronary, skin and cerebral circulation	1. Describe the coronary blood flow and its phasic changes during the cardiac cycle. 2. States the relative importance of local metabolic and neural control of coronary, cerebral and skin blood flow 3. Describe the regulation of the coronary cerebral and skin blood flow. 4. Apply the information studied in this section to solve a clinical problem or explain clinical case.	Physiology
			Biochemical basis hyperlipidemia & atherosclerosis	Lecture	TG metabolism	1. Illustrate sources of glycerol phosphate. 2. Mention steps of FA activation and lipogenesis. 3. Describe steps of lipolysis and its regulation.	Biochemistry
				Lecture	Cholesterol metabolism	1. Illustrate the steps of cholesterol synthesis and degradation. 2. Outline different regulatory mechanisms of cholesterol synthesis. 3. Describe the biochemical basis of statin drugs.	
				Lecture	Lipoprotein metabolism	1. Mention the structure, origin and methods of lipoproteins separation. 2. Outline different apolipoproteins. 3. Outline the importance of different lipoproteins. 4. Discuss metabolism of chylomicrons and VLDL.	
				Lecture	Dyslipidemia	1. Discuss metabolism of LDL and HDL 2. Correlate defects in lipoprotein metabolism to dyslipidemia.	
				Lecture	Biochemical basis of atherosclerosis	1. Discuss the biochemical basis of atherosclerosis. 2. Outline preventive measures against atherosclerosis.	



				Practical	Lipid profile	1. Enumerate indications of performing lipid profile. 2. Interpret the results of lipid profile. 3. Estimate the concentration of total cholesterol in a serum sample. 4. Calculate LDL levels from given lipid profile. 5. Interpret ATP Guidelines.	
			Pharmacological treatment of hyperlipidemia	Lecture	Hypolipidemic drugs1	1. Identify causes of hyperlipidemia 2. List hypolipidemic drugs 3. Compare the mechanism of action , adverse effects and drug interaction of statins and fibrates 4. Relate the therapeutic uses of statins and fibrates to their clinical applications	Pharmacology
				Lecture	Hypolipidemic drugs 2	1. Compare the mechanism of action ,adverse effects and drug interaction of niacin, cholestyramine, cholesterol absorption inhibitors, and omega 3 fatty acids 2. Relate the therapeutic uses of niacin, cholestyramine, cholesterol absorption inhibitors, and omega 3 fatty acids to their clinical applications 3. List indications of combined therapy for hyperlipidemia treatment 4. Explain favorable and unfavorable drug combinations	
			Pathological features of vascular diseases	Lecture	Pathology of atherosclerosis	1. Identify types of arteriosclerosis 2. Define atherosclerosis 3. Enumerate risk factors of atherosclerosis 4. Explain the pathogenesis of atherosclerosis 5. Describe pathological features of atherosclerosis 6. Recognize effects & complications of atherosclerosis	Pathology



				Lecture	Pathology of aneurysms and varicose veins	1. Define aneurysms 2. List the causes of aneurysms 3. Discuss different types of aneurysms 4. Recognize sites & predisposing factors of varicose veins. 5. Identify complications of varicose veins. 6. Enumerate tumours of blood vessels.
				Practical	Diseases of cardiovascular system (1)	1. Identify the gross picture of rheumatic endocarditis 2. Recognize the gross picture of acute bacterial endocarditis 3. Identify the gross picture of hypertensive heart 4. Describe the gross picture of atherosclerosis & aneurysms 5. Describe the microscopic picture of atherosclerosis 6. Analyze the findings of the clinical case. 7. Correlate between clinical diagnosis and histopathological diagnosis. 8. Understand how to reach to the final diagnosis.
			Circulatory disturbances	Lecture	Embolism	1. Define embolism 2. List different types of emboli 3. Discuss the pathology of thromboembolism (aetiology, sites and effects) 4. Outline briefly the pathology of the unusual types of Embolism (fat- amniotic fluid- air)



				Lecture	Ischemia, infarction and gangrene	1. Define ischemia and list its types 2. Enumerate causes and effects of acute & chronic ischemia 3. Define infarction and list its causes 4. Determine types of infarction 5. Describe the general pathological features of infarct. 6. Define gangrene 7. List the types of gangrene 8. Explain the pathogenesis of dry gangrene 9. List causes of wet gangrene 10. Differentiate between dry and wet gangrene 11. List examples of infective gangrene 12. Discuss briefly the pathology of gas gangrene	
			Pathological features of Ischemic heart disease	Lecture	Pathology of ischemic heart diseases	1. Identify types of coronary (ischemic) heart disease and their causes 2. Describe the pathology and complications of chronic cardiac ischemia 3. Discuss the aetiology and complications of acute cardiac ischemia 4. Predict sites of myocardial infarction 5. Compare between morphology, manifestations, fate and complication of recent and healed myocardial infarction 6. Differentiate between types of myocardial infarction	
			Diagnosis	Lecture	Diagnostic biomarkers of myocardial infarction	1. Define biomarker of myocardial infarction (MI.) 2. List causes and risk factors of MI. 3. Interpret the role of different cardiac biomarkers in diagnosis and follow up of MI. 4. Explain the biochemical basis of streptokinase in treatment of MI.	Biochemistry



			Pharmacological treatment of angina	Lecture	Antianginal drugs 1	1. Understand the causes of different types of angina pectoris and its symptoms 2. Classify different lines of drugs used in angina pectoris treatment 3. Explain the mechanism of action of nitrates 4. Identify the pharmacokinetics of different preparations of nitrates	Pharmacology
				Lecture	Antianginal drugs 2	1. Explain the adverse effects and the precautions with nitrates' use 2. Interpret the role of β-blockers in treatment of angina 3. Identify the role of Ca channel blockers in treatment of angina 4. Identify other antianginal and adjuvant drugs used in the treatment of angina	
				Practical	Treatment of angina pectoris	1. Plan the therapeutic management of stable angina. 2. Differentiate between drug selection in case of stable & unstable angina . 3. Explain the difference in drug selection in vasospastic angina in comparison to that in the other types of angina.	
		Cardiomyopathy, heart failure and arrhythmia	Physiology of arrhythmia	Lecture	Cardiac arrhythmias	1. Summarizes the Basics of conduction of cardiac impulse 2. Classify arrhythmia based on its origin 3. List the 4 Mechanisms of Arrhythmia 4. Describe the ECG changes in different types of arrhythmias 5. Apply knowledge to solve a clinical case	Physiology



			Special circulations	Lecture	Capillary circulation, tissue fluid formation and edema	1. Correlate the capillary structure to its function 2. Describe tissue fluid formation "starling forces" 3. Explain how trans-capillary fluid movements will be involved in the overall cardiovascular response to a given primary disturbance. 4. Define edema, list its causes and describe its mechanism 5. Apply the information studied in this section to solve a clinical problem or explain clinical case.	
				Tutorial	Cardiovascular changes with muscular exercise, Highlights and MCQ on the heart	Part one: Muscular exercise and cardiovascular system 1. Evaluate the CVS response s to acute exercise in athletes and non-athletes 2. Predict the CVS response to chronic exercise 3. Apply the knowledge and skills acquired by studying this chapter to explain clinical problems. Part two: MCQs that 4. Predict the effect of sympathetic and parasympathetic stimulation on myocardial automaticity 5. Expect the factors that affect myocardial conductivity and excitability 6. Differentiate between chronotropic and inotropic factors 7. explain the effects of altered serum Ca^{++} Na^{+} and K^{+} on the myocardial excitability and contractility 8. analyze and explain finding in a problem-solving case scenario	Physiology



			Pathological features	Lecture	Pathology of myocardial, pericardial diseases and heart failure	1. Differentiate between types of idiopathic cardiomyopathy 2. List causes of secondary cardiomyopathy 3. List causes of myocarditis 4. Enumerate primary and secondary cardiac tumors 5. Differentiate between different types of pericarditis 6. Discuss definition & etiology of hydropericardium and haemopericardium 7. Define heart failure 8. Identify aetiology of heart failure 9. Differentiate between the pathological features of left and right side heart failure	Pathology
				Practical	Diseases of cardiovascular system (2)	1. Recognize the gross picture of organ infarction 2. Identify the gross picture of different types of gangrene 3. Describe the gross picture of pericarditis 4. Describe the microscopic picture of organ infarction 5. Analyze the findings of the clinical case. 6. Correlate between clinical diagnosis and histopathological diagnosis . 7. Understand how to reach to the final diagnosis.	
			Pharmacological treatment	Lecture	Drugs used in heart failure 1	1. Identify the compensatory physiological responses in heart failure (HF) 2. Understand the goal of treatment 3. Classify drugs used in the treatment of heart failure 4. Explain the beneficial effects of renin-angiotensin system inhibitors in the treatment of HF 5. Identify the pharmacokinetics and the adverse effects renin-angiotensin system inhibitors	Pharmacology



				Lecture	Drugs used in heart failure 2	1. Explain the beneficial effects of β-blockers, diuretics and direct vasodilators in the treatment of HF 2. Explain the mechanism of action, adverse effects and drug interactions of Digitalis 3. Identify the therapeutic uses of Digitalis 4. Identify the role of β-Adrenergic agonists and phosphodiesterase inhibitors as inotropic drugs 5. Identify the role of Aldosterone antagonists in the treatment of HF	
				Practical	Treatment of heart failure	1. Select the appropriate drug management in accordance to the different stages of HF 2. Plan the therapeutic management of pulmonary edema	
				Lecture	Antiarrhythmic drugs	1. Classify the classes of anti-arrhythmic drugs 2. Explain the mechanisms of action and adverse effects of the anti-arrhythmic drugs 3. Identify the choice of the anti-arrhythmic drugs in various types of arrhythmias.	
		Congenital heart diseases	Understanding the basis of congenital heart diseases	Lecture	Development of cardiovascular system I	1. Describe the sequence of events taking place during the prenatal development of the cardiac loop. 2. Discuss the fate of the different embryonic structures encountered in development of heart. 3. Correlate the development of sinus venosus to its fate.	Anatomy
				Lecture	Development of cardiovascular system II	1. Describe partitioning (septation) of the heart and formation of the interatrial septum, interventricular septum & other septa. 2. Explain congenital anomalies of the heart & great vessels.	



				Lecture	Development of cardiovascular system III	1. Identify the 3 sets of aortic vessels. 2. List the 3 sets of branches of the dorsal aorta . 3. Define the fate of somatic & visceral branches of dorsal aorta. 4. Recognize pharyngeal arch arteries (aortic arches) & their derivatives. 5. Explain different congenital anomalies of the aortic arches.	
				Practical	Anomalies of cardiovascular system	1. Identify the congenital anomalies of the heart and the great vessels	

Other parallel courses during the module period

1. Clinical & Technical Skills II CTS 202

TS 1	Auscultation of normal heart & Measurement of central pulsations
TS 2	Perform an electrocardiogram & Identify the normal ECG
TS 3	Peripheral Pulsation & Jugular venous pressure (JVP)
TS 4	Blood Pressure Measurement



TS 5	Radiological anatomy of thorax
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2. Public Health, Community & Occupational Medicine II PH 201

No	TUTORIAL / Practical TOPIC	ILOs By the end of the session the student will be able to:
1	Overview To Study Designs & Methods	1. Differentiate between exposures, outcomes and confounding factors 2. Classify the types of epidemiologic studies 3. Recognize advantages & limitations of each design
2	Introduction To Biostatistics Types Of Data	1. Describe and understand the role of biostatistics in medical field 2. Differentiate between data and information 3. Classify types of variables 4. List sources of data 5. Distinguish appropriate uses of data types
3	Summarizing & Presenting Data Tables & Graphs	1. Identify special considerations when preparing data for analysis 2. Choose the proper methods for data presentation & summarization 3. Construct different types of tables 4. Identify appropriate graphs to present different types of data
4	Summarizing & Presenting Data Parameters	1. Determine appropriate use of data & statistical methods for problem identification & resolution 2. Choose the proper mathematical method for quantitative data summarization 3. Calculate different measure of central tendency



5	Summarizing & Presenting Data Parameters B- Measures Of Dispersion	1. Determine appropriate use of data & statistical methods for problem identification & resolution 2. Choose the proper mathematical method for quantitative data summarization 3. Calculate different measure of dispersion 4. Apply simple statistical methods to analyse data in medical & social research.
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3. Research Track II RT 204

Topic	ILOs	Method of teaching
Research question (revisited, the research cycle) and scientific writing	<i>By the end of this lecture and hands-on practice students will be able to:</i> 1. Formulate a research question based on the essential components of research cycle (from the concept of observation, causation (association) to intervention and practical impacts and applications. 2. To apply the PICO-T as a frame for searching a clinical questions. 3. To properly citing different forms of reference materials including articles, books, databases, and web-based using reference management software	Interactive with demo from the literature and bibliographic databases, using Mendely or endnote software



Chapter 3: Learning Strategies

In cardiopulmonary module, the students will be enriched with a spectrum of different learning strategies that enhances their learning experience through comprehensive, activity-based blended environment. These strategies include:

Interactive lectures:

Interactive lectures are one of the teaching strategies in this module. They go beyond the traditional boundaries of the lecture format through increasing engagement and introduction of active learning methods. Thus, transforming the students from being passive listeners to active contributors. In lectures, an efficient and organized delivery of a large body of knowledge will be presented in a simplified manner to the students' level of understanding.

Amin Z and Eng K H (2003). Making Lecture Effective. In: Basics in Medical Education. 1st Edition. World Scientific Publishing Co. Pte. Ltd. ISBN-13 978-981-238-209-2.

Tutorial teaching

Tutorial is a student-centered learning strategy, which provides an opportunity for students to ask questions, express points of view and generally interact and relate with the tutor and other students through discussion. The core of the tutorial teaching process lies in the interplay between the student's and the tutor's conceptions of learning.



Graham Webb (1983). The Tutorial Method, Learning Strategies and Student Participation in Tutorials: Some Problems and Suggested Solutions, Innovations in Education & Training International, 20:2, 117-121, DOI: 10.1080/0033039830200204

Self-regulated learning (SRL):

It is an active, constructive process whereby learners set goals for their learning and attempt to monitor, regulate and control their cognition, motivation, and behavior, guided and constrained by their goals and contextual features on the environment. SRL is highly strategic and uses a variety of key cognitive and metacognitive processes to ensure that the intended learning is achieved, including enhancing motivation through increasing their self-efficacy beliefs, self-monitoring of the progress of selected goals, and making adaptive changes to goals and motivational and attribution beliefs. This learning method has a specific focus on the key learning processes in relation to a clearly defined task.

Saks K and Leijen A (2014). Distinguishing Self-Directed and Self-Regulated Learning and measuring them in the E-learning Context. Procedia - Social and Behavioral Sciences. 112; 190 – 198.

Case-Based Learning:

In this learning strategy a case is presented including a description of patients' problem that requires analysis and interpretation of data and decision-making by the learners. The learners' tasks are to critically analyze the relevance and usefulness of the data, interpret their meaning, and eventually propose a hypothesis. This form of teaching strategy is effective in stimulating critical thinking, problem solving, and other higher order cognitive skills.



Amin Z and Eng K H (2003). Case-Based Teaching. In: Basics in Medical Education. 1st Edition. World Scientific Publishing Co. Pte. Ltd. ISBN-13 978-981-238-209-2.

Practical sessions

Practical sessions are taught in the laboratories of each discipline. The main goal of practical sessions is to provide application for the theoretical knowledge and mastery of specific psychomotor skills related to module objectives.

Student Support and Guidance

Students' support and guidance are based on the provision of clear and timely academic assistance.

Staff members at AFCM are allocated to students in fixed, announced office hours as personal tutors to offer general academic guidance and support.

The students are also provided with Student Guide for each module. This indicates what they should learn and how this learning can be achieved and evaluated. Student guide provides students with learning outcomes, details of the program and guidance to support self-study and self-assessment.

Chapter 4: Learning Resources

Lecture notes	
Prepared by staff members and uploaded for the students on the server.	
Essential text books	
Histology	Mescher A (2016): Junqueira's Basic Histology, Text and Atlas. 14th Edition. Lange medical books/Mc Graw-Hill.



	Eroschenko V (2013): diFiore's Atlas of Histology with Functional correlations. 12th Edition. Walters Kluwer/Lippincott Williams & Wilkins
Biochemistry	Champe P C, Harvey R A and Ferrier D R (2007): Lippincott's Illustrated Reviews in Biochemistry. 4th edition. Lippincott Williams & Wilkins.
	Murray R K, Granner D K, Rodwell V W et al., (2012): Harper's illustrated Biochemistry. 29th edition. McGraw Hill companies. Inc.
Anatomy	Richard S Snell (2015): Clinical anatomy (Snell Clinical Anatomy). 7th edition. Walters Kluwer/Lippincott Williams & Wilkins
	Drak R, Vogl W and Mitchell A W M (2006); Gray's anatomy for students. 3rd edition. Elsevier.
	Keith L. Moore: Before we are born, essentials of embryology and birth defects; 7th edition.
Physiology	Hall J (2016): Gayton and Hall textbook of Medical Physiology. 13th edition. Elsevier
	Barret K E, Barman S M, Boitano S et al., (2015): Ganong's Review of Medical Physiology. 25th edition. McGraw Hill companies. Inc
Pathology	Mitchell R. Blood vessels. In Robbins and Cotran pathologic basis of disease, 9 th edition. Kumar, Abbas & Aster (eds). Elsevier Saunders.
	Cardiac pathology and respiratory pathology . In USMLE step 1 lecture notes, 2017. Kaplan INC, New York. Pages 112 -143
	Mohan Text Book of Pathology, 7th ed. (2015)



Pharmacology	Whalen, K., Finkel, R., & Panavelil, T. A. (2018) Lippincott's Illustrated Reviews: Pharmacology (7th edition.). Philadelphia: Wolters Kluwer
	Katzung BG, Trevor AJ. (2018). Basic & Clinical Pharmacology (14th edition) New York: McGraw-Hill Medical.
Others	
Useful links	http://www.histology-world.com/
	http://www.histologyguide.org/index.htm

Chapter 5: Faculty and Mentors

Task	Assigned Staff	Sharing Department
Main module coordinator	Dr Walaa Baher	Histology
Module coordinators	Dr Hussien	Anatomy
	Dr. Radwa Hassan	Physiology
	Dr Amal Elshal	Biochemistry



	Dr Asmaa Abo Zeid	Histology
	Dr Eman Abd Elbary	Pathology
	Dr Sherin Shafik	Pharma
	Dr. Shaimaa	Microbiology

Chapter 6: Module assessment

Assessment method		Time schedule	Weight & marks
Summative assessment			
1.1	MCQ – Short essay	Mid-module	10% (26 marks)
1.2	Portfolio	Continuous - task based	10% (26 marks)
1.3	MCQ – Short essay	End module	20% (52 marks)
1.4	OSPE	End Module	20% (52 marks)
1.5	MCQ – Short essay	End year	40% (104 marks)
Total			260 marks
2. Formative Assessment			
2.1	Assignments	Continuous	-----



2.2	Formative MCQ – Short essay	Continuous October November	-----
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As compensation applies across assessment components in this module, a fail of the components will require a supplementary exam to be undertaken to progress with percentage marks distribution as follows:

%	Type	Method	Marks
70%	Written exam	MCQ Short essay questions	182
30%	Practical exam	Objective Structured Practical Examination (OSPE)	78
	Total		260



Module assessment Schedule

Exam		Date	
Cardio-pulmonary Module CP 205	Cardio-pulmonary Mid Module Exam	13/11/2022	Written
	Cardio-pulmonary End Module Exam	10/12/2022	Written
		11/12/2022	OSPE
	Final Year Exam	11/07/2021	Written
	Resit Exam	11/09/2021	Written & OSPE



Chapter 7: Module Evaluation Forms

Pre-clerkship Phase Cardio-pulmonary Module Evaluation form	Edition No.00	Issue No.01	Code No.	
	Date of Edition /	Date of issue 11/2018	F-ME-1a.2F	Quality Assurance and Accreditation Department

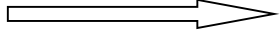
Module Evaluation

(To be filled in by each cadet at the end of each module)

Name of Cadet:				ID No.:	
Academic Year:	2018/2019	Module:		PBL Group:	

Thank you for taking the time to complete this evaluation form. Your feedback will help the college to continuously improve the educational program. Please complete and return the form to your group tutor.



	Totally agree  Totally disagree				
	5	4	3	2	1
1. The objectives of the Module were clear					
2. The Module Lecture notes and study guide were well organized and helpful					
3. The Module contents fitted in with the Module objectives					
4. The recommended resources/ lectures were useful					
5. The module assignments were linked well to the module contents					
6. The lectures were useful					
7. The First Aid / Basic Life Support skills training sessions were useful					



8. The skills lab training session were related to the Module contents					
9. The Presentation Skills training sessions were useful					

What did you like in this Module?

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Provide suggestions for improvement

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Pre-clerkship Phase Cadets' Evaluation of the Student Guide form	Edition No.00	Issue No.01	Code No.	
	Date of edition /	Date of issue 11/2018	F-ME-1a.3F	Quality Assurance and Accreditation Department

Cadets' Evaluation of the Study Guide

Name of Cadet:		ID No.:	
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Dear Cadets: we appreciate your input about this study guide. This information is very useful in maintaining a high quality of education in our college. We will use your input in updating the Module student guide for the next academic year. Please fill this form at the end of the Module and submit it to your Module Coordinator.



1. How would you rate the Module study guide in helping cadets learning in the module?

Not very helpful

Helpful

Very helpful

2. Which part(s) of the Module study guide have you found most useful? (check all that apply)

General Module timetable

Learning opportunities

List of tutors in the Module

Learning objectives

Learning resources

Principles of assessment

3. Which part(s) of the Module study guide have you found least useful? (check all that apply)

General Module timetable

Learning opportunities



List & summary of the problems

List of tutors in the Module

Learning objectives

Learning resources

Principles of assessment

4. What modifications would you like to see addressed in this Study Guide?

Please provide any additional comments you wish to make about the Module Study Guide.



5. In your view was the Module well received by the cadets? Explain.